Available online at www.sciencedirect.com

SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 56 (2012) 348 – 356

Procedia Social and Behavioral Sciences

International Conference on Teaching and Learning in Higher Education (ICTLHE 2012) in conjunction with RCEE & RHED 2012

Measurement Model of Employability Skills Using Confirmatory Factor Analysis

Mohd Yusof, H.[a,*], Ramlee Mustapha[b], Syed A. Malik Syed Mohamad[c], Seri Bunian, M[d]

[a,b,c]*Universiti Pendidikan Sultan Idris, Tanjong Malim, 35900, Perak Darul Ridzuan Malaysia*

[d]*Universiti Kebangsaan Malaysia, UKM Bangi, 43600, Selangor, Malaysia*

Abstract

This paper reports on a study carried out to validate the employability skills (ES) measurement model for engineering students. A total of 280 respondents were involved in this research. Data were analyzed descriptively for reliability (Cronbach Alpha values) and confirmatory factor analysis was utilized in order to find measurement models for each of the constructs using AMOS software. The results showed that the Cronbach Alpha on the classification was higher than 0.70. The results of the first and second order CFA confirmed that data collected fit with model. Thus, the measurement model was suitable to be used to study the employability skills acquired by engineering students in the context of education in Malaysia.

© 2012 Published by Elsevier Ltd. Selection and/or peer-review under responsibility of Centre of Engineering Education, Universiti Teknologi Malaysia Open access under CC BY-NC-ND license.

Keywords: employability skills; confirmatory factor analysis (CFA); measurement model; engineering students

1. Introduction

Rothwell and Arnold (2007) defined employability skills as the ability to survive in a job. The Conference Board (1996) defined employability skills as individual quality required by the employer. These skills can be applied in various fields of work. Kearns (2001) has listed employability skills as: i) the availability of work and individual work capacity, ii) knowledge in entrepreneurship, iii) the creative and innovative, interpersonal skills and iv) thinking and a willingness to learn. There are also several studies done (SCANS 1991; Mayers 1992; Kearns 2001; The Conference Board 1996; Mohd Lazim & Abdullah Sani 2007; Lankard, 1995; Gurvinder & Sharan, 2008) about the attributes required by employers to address the current changes in work environment . Among the attributes that been studied were communication skills, confidence, tolerance for change and teamwork. Employability skills term varies by country. Another term used for Employability skills were the soft skills, generic skills, core skills or essential skills. This skill is very important for individual and also in the workplace (Brown, 2002; SCANS, 1991; Ramlee & Greenan, 2002; Mohamad Sattar et al., 2009). Employability skills is also important in helping people adapting with changes and improve career opportunities in the workplace (Mohamad Sattar, 2010).

There are many studies done about the employability skills. Chung and Yet (2009), in their study investigated the competence that meets the specified requirements of employers and analyze the effectiveness of the personal quality and employability skills in the private universities in Malaysia. Questionnaire, the mean and t-test was used to look at the

* Corresponding author. Tel.: +6019-559-7174.
E-mail address: myhsbm74@yahoo.com

1877-0428 © 2012 Published by Elsevier Ltd. Selection and/or peer-review under responsibility of Centre of Engineering Education, Universiti Teknologi Malaysia Open access under CC BY-NC-ND license.
doi:10.1016/j.sbspro.2012.09.663

perceptions of 30 employers and 600 students from private universities on the importance of employability skills. Results showed that students are competent in personal qualities and skills that are tested. However, skills such as critical thinking, planning, problem solving, oral communication, decision making, and negotiations show different perception between employers and students. This shows that there were deficiencies in the education system and should be viewed seriously by the educational institution.

Ng (2009) also studies the employer feedback on employability skills of university graduates. Nine employability skills attributes studied namely; thinking skills, information skills, communication skills, technology skills, lifelong learning, international perception, understanding the cultural and professional skills. The findings showed that graduates' employability skills were at moderate level. The findings also showed that employers were not satisfied with graduates' employability skills. Besides, Mohamad Sattar (2010) studied the employability skills of technical graduates. The respondents involved in his study were 327 polytechnic graduates and 107 employers from the manufacturing industry. His findings showed that employability skills such as basic skills, thinking skills, resources skills, information skills, interpersonal skills, systems and technology and individual quality were found to be at high level. While basic skills, creative thinking, decision making, problem solving, risk management, interpret and disseminate information, leadership, negotiates, monitor and improve performance and handling equipment at a moderate level.

Previous studies showed the importance of employability skills. Changes in the industrial sector require educational institutions to provide graduates with employability skills (Maclean & Ordóñez, 2007; Khaled Nordin, 2011). Technical and vocational education systems need to plan strategies to improve the quality of graduates in order to meet the current needs of employers. However, research by Grennan and Ramlee (2002), found that employers are not satisfied with the technical and vocational graduates employability skills. Mohd Yusof and Ramlee (2009) state that employability skills are skills that is very influential in ensuring the success and progress of a company or industry. Employee or graduates that having employability skills able to perform in various situations (Abdul Rahim, Mohamad Najib, Almaz, Jamaluddin, & Mahani, 2007). In this regard, Malaysia's education system should be capable of producing human capital that meets the needs of the industry.

Measurement that used to determine the level of employability skills among the students also plays an important role. Mohamad Sattar (2010) suggested teachers in educational institutions need to improve the understanding, implementation and measurement methods of employability skills. There are many instruments that were developed by previous researchers (Rodiah, 2010; Nur Ashikin, 2011; SCANS 2001: The Conference Board, 1996) to measure the level of employability skills. However, most instruments are more focused on university, school and matriculation students. The use of existing measures as a means of measuring employability skills throughout the university students may have been tested with some degree of success, but this may not be the case for other education sector, particularly the technical education. As such, it may be fruitful to continue pursuing the development of a standard measurement scale applicable to technical students. Therefore, this study aimed to validate existing questionnaire using confirmatory factor analysis that later will be useful in measuring engineering student's employability skills.

2. Methodology

The study was conducted at the Technical Institution involving final year students. The sample consisted of 280 students who were randomly selected by systematic sampling based on Krejcie and Morgan (1970), where, for a population of 850 people, the number of sample size was 265 people. A total of 350 questionnaires were distributed to the students (students of final semester). A total of 280 forms were collected. All participants belonged to the same cohort and were all enrolled in engineering program. They were selected randomly to complete the questionnaires and the measures were administered during regular class sessions coordinated with help from lecturers. Students were briefed on the nature of the questionnaires and confidentiality was confirmed. They were allowed as much time as they needed to complete the questionnaires, typically requiring 25 to 35 minutes.

To determine the employability skills scale to be included in the instrument, researcher must determine which skills important for graduates. The resulting lists from twelve model (SCANS 2001; The Conference Board 1996; Mayers 1992; Kearns 2001; Kerangka Kualiti Malaysia 2004; KPM 1999; KPTM 2006; UK Key Skills 1998; Mohd Lazim & Abdullah Sani 2007; Kaur & Sharma 2008; MyGSI 2010; IKGPP 2011) were examined and a set of common skills emerged. As a result, the initial version of the questionnaire contained a scale seeking perceptions of the development of each of the following employability skills; critical and problem solving, ability to pursue lifelong learning and information management skills, communication skills, team work, technology utilizing skills, entrepreneurship, leadership, ethic and moral and social skills. Figure 1 showed the conceptual framework of this study.

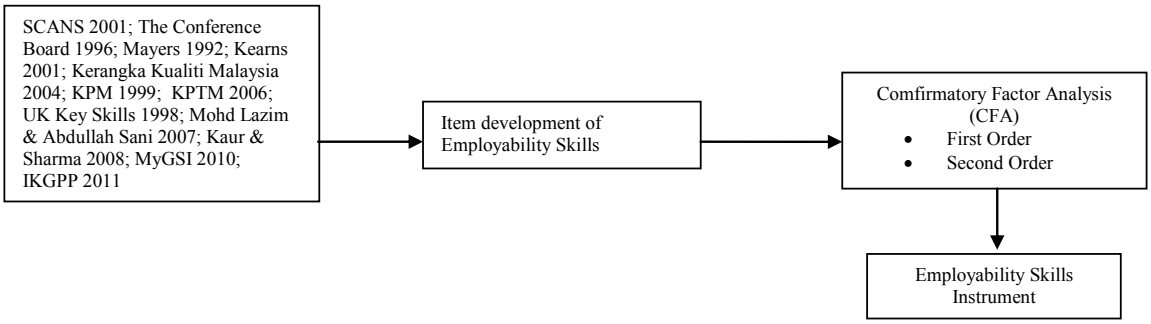

Fig. 1. Conceptual Framework

Further, this study used a questionnaire instrument which consists of 49 items measuring nine attribute adapted from SCANS (2001), Mohamad Sattar (2009), Kamaruddin (2010), *Kemahiran Insaniah* (Generic Skills) (KPTM 2006), MyGSI (2010), IKGPP (2011) and *Kerangka Kualiti Malaysia* (Malaysia Quality Framework) (2004).

In this study a reliability scale test was carried out for all nine attribute in order to assess the internal consistency of variables. According to Babbie (1992), the value of Cronbach's Alpha was classified based on a reliability index in which 0.90 - 1.00 is very high, 0.70 - 0.89 is high, 0.30 - 0.69 is moderate, and 0.00 – 0.30 is low. Further, the data was evaluated for unidimensionality of the items and the sub-scales through CFA using AMOS (Arbuckle & Wothke, 1999). AMOS (Analysis of Moments Structure) is a statistical program to perform structural equation modeling (SEM), a form of multivariate data analysis that can test for goodness-of-fit between research data and hypothesized models. AMOS calculates maximum likelihood (ML) estimates from a covariance matrix using several goodness-of-fit indices between the data and the specified model. A number of indicators of goodness-of-fit have been recommended by Hair et al (2006) to test a hypothesized model. Assessment of model fit was based on multiple criteria including both absolute misfit and relative fit indices. The absolute misfit indices included the root mean square error of approximation (RMSEA; Hair et al. 2006) and the relative goodness-of-fit indices were the comparative fit index, Tucker Lewis index and incremental-fit-index (CFI, TLI, IFI; Hair et al., 2006). Arbuckle and Wothke (1999) states that a model is fit when the indices shows that (i) the value of CMIN/df is between 1 and 5, considered acceptable or acceptable fit between model and data, (ii) indices of CFI, IFI and TLI approach 1.00, and (iii) the RMSEA index of 0.08 or less indicates a reasonable error and can be accepted. The present study has followed the recommendation of Hair et al. (2006) who suggest the use of 5 indices for evaluation of model fit, these being: $\chi 2$/df, CFI, IFI, TLI and RMSEA.

3. Research Findings

3.1 Reliability

Internal consistency reliability to test unidimensionality was assessed by Cronbach's alpha. The resulting alpha values ranged from 0.79 to 0.91, which were above the acceptable threshold 0.70 suggested by Babbie (1992). According to Babbie (1992), the value of Cronbach Alpha is classified based on the reliability index classification where 0.90-1.00 is very high, 0.70-0.89 is high, 0.30-0.69 is moderate, and 0.00 to 0.30 is low. The analysis showed the Cronbach Alpha value, higher than 0.70, falls into the classification of high and very high.

Confirmation factor analysis (CFA) was conducted on the structure model based on nine factors hypothesized using Analysis of Moment Structure - Amos version 18. Figure 2 shows the first order measurement model of nine attributes using the data collected from a sample of (n = 280) students. Table 1 shows first order measurement model of nine attributes used to measure the employability skills. The overall fit analysis for the measurement model shows CMIN / df = 2.06, CFI = 0.88, TLI = 0.87, IFI = 0.88 and RMSEA = 0.06. This shows that the data from the sample does not fit with the hypothesized model. Therefore, modifications were done to the model according to the guide provided by Hair *et. al* (2006) where some of the information was checked. Modification steps are as follows:

a. Review of the factor loading of each item where it must exceed 0.50, and remove the items that do not meet this criterion.
b. Review of the standardized residual where the items with value of more than 2.58 will be dropped.
c. Review of the modification index to improve the model.

After modification, six items were dropped. Modified model was tested again and the results of CFA indicated a better fit. The goodness-of-fit indexes for this model were CMIN / df = 1.808, CFI=.915, TLI=.907, IFI= 0.916 and RMSEA=.054, indicates an excellent fit to the observed data. All of the paths between the latent variables were statistically significant. The excellent fit of the model to the data from the questionnaire provides further evidence of the validity to the questionnaire.

Table 1. Fit Indices for the Measurement Model

***Fit* Index**	**Hypothesized model**	**Modified model**	**Recommended values**	**Source**
Df	1091	824		
χ^2	2244.42	1489.57		
χ^2/df	2.06	1.81	≤ 5.00	Hair et al. (2006)
TLI	.87	.907	≥ 0.90	Hoyle (1995)
IFI	.88	.916	≥ 0.90	Chau & Hu (2001)
CFI	.88	.915	≥ 0.90	Bagozzi & Yi (1988)
RMSEA	.06	.054	≤ 0.08	Browne and Cudeck (1993)

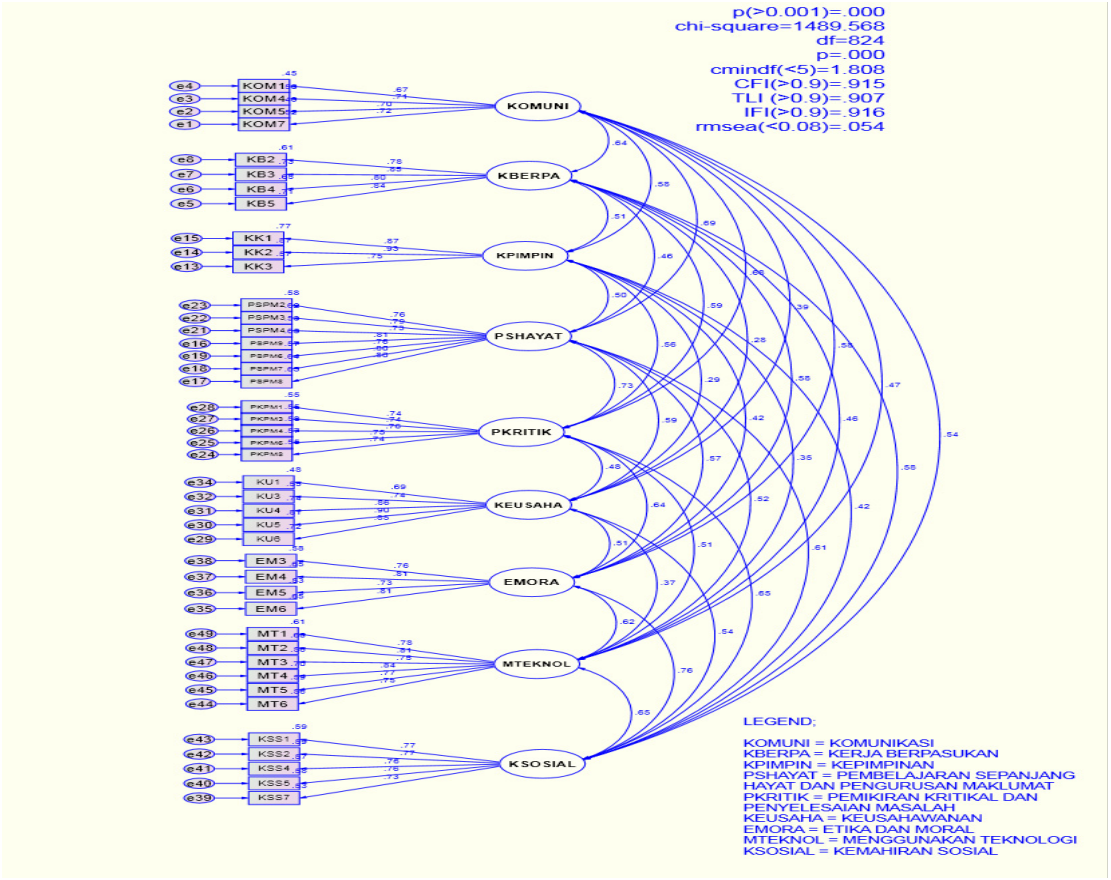

Fig. 2. First order measurement model

Then the multicollinearity are checked. Table 2 shows the correlation between attributes studied. According to Hair et al. (2006), a correlation value below 0.9 indicates no multicollinearity between construct (attributes). Based on Table 2, the correlation between the attributes for all items were less than 0.9.

Table 2. Correlation between construct

Constructs	Mean	Std. Dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Communication	3.96	.54	1								
(2) Team work	4.29	.54	.64	1							
(3) Leadership	4.00	.60	.58	.51	1						
(4) Long life learning and Information management	4.00	.52	.69	.46	.50	1					
(5) Critikal thinking and problem solving	4.04	.48	.68	.59	.56	.73	1				
(6) Entrepreneurship	3.80	.69	.39	.29	.29	.59	.45	1			
(7) Ethic and moral	4.25	.56	.58	.58	.42	.57	.54	.51	1		
(8) Technology Utilizing Skills	4.17	.56	.47	.46	.35	.52	.45	.38	.62	1	
(9) Social skills	4.21	.51	.54	.59	.42	.61	.56	.54	.77	.65	1

Note: All correlations significant at the 0.05 level.

Further, the convergent validity and discriminant validity were checked. Convergent validity is the degree to which multiple attempts to measure the same concept in agreement. Convergent validity was assed based on factor loading, composite reliability, and variances extracted (Hair et al, 2006). Table 3 showed the factor loading for all items exceeds the recommended level of 0.5 (Hair et al, 2006). Composite reliability values, which depict the degree to which the construct indicators indicate the latent construct, range from 0.80 to 0.91 (Table 3). The composite reliability of all latent constructs exceeded recommended level of 0.7 (Hair et al, 2006). The average variances extracted, which reflect the overall amount of variance in the indicators accounted for by the latent construct, were in the range between 0.49 and 0.55. Moreover, discriminant validity is the degree to which the measures of different concepts are distinct. Discriminant validity can be examined by comparing the squared correlations between constructs and variance extracted for a construct (Hair et al, 2006; Anderson & Gerbing, 1988; Fornell & Larcker, 1981).

Table 3. Result of CFA for measurement model

Construct	Item	Internal reliability Cronbach alpha	Factor Loading	Composite reliability[a]	Average variance extracted[b]
Communication	KOM1	.79	.67	0.80	0.49
	KOM4		.71		
	KOM5		.70		
	KOM7		.72		
Team work	KB2	.89	.78	0.89	0.67
	KB3		.85		
	KB4		.80		
	KB5		.84		
Leadership	KK1	.89	.88	0.89	0.74
	KK2		.93		
	KK3		.75		
Long life learning and Information management	PSPM2	.91	.76	0.91	0.60
	PSPM3		.79		
	PSPM4		.73		
	PSPM6		.75		
	PSPM7		.80		
	PSPM8		.80		
	PSPM9		.81		
Critikal thinking and problem solving	PKPM1	.86	.74	0.86	.56
	PKPM3		.74		
	PKPM4		.76		
	PKPM6		.75		
	PKPM8		.74		
Entrepreneurship	KU1	.90	.69	.91	.66
	KU3		.74		
	KU4		.86		
	KU5		.90		
	KU6		.85		
Ethic and moral	EM3	.85	.76	.86	.60
	EM4		.81		
	EM5		.73		
	EM6		.81		
Technology Utilizing Skills	MT1	.90	.78	.90	.60
	MT2		.81		
	MT3		.75		
	MT4		.84		
	MT5		.77		
	MT6		.75		
Social Skills	KSS1	.87	.77	.87	.57
	KSS2		.77		
	KSS4		.76		
	KSS5		.76		
	KSS7		.73		

The analysis results in Table 4 showed that the square correlations for each construct is less than the average variance extracted by the indicators measuring that construct, indicating the measure has adequately discriminant validity. In summary, the measurement model demonstrated adequate reliability, convergent validity, and discriminant validity.

Table 4. Discriminant validity of constructs

Constructs	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Communication	**0.49**								
(2) Team work	0.40	**0.67**							
(3) Leadership	0.34	0.26	**0.74**						
(4) Long life learning and Information management	0.47	0.19	0.25	**0.60**					
(5) Critikal thinking and problem solving	0.46	0.21	0.31	0.52	**0.56**				
(6) Entrepreneurship	0.15	0.08	0.08	0.34	0.23	**0.66**			
(7) Ethic and moral	0.33	0.34	0.17	0.33	0.41	0.26	**0.60**		
(8) Technology Utilizing Skills	0.22	0.21	0.18	0.27	0.26	0.14	0.42	**0.60**	
(9) Social skills	0.29	0.33	0.20	0.37	0.42	0.29	0.69	0.42	**0.57**

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the squared correlations

After that, second order measurement model are conducted to nine construct (attributes) of employability skills in order to convert construct to become indicators in measuring employability skills. Result showed (figure. 3) that that second order measurement model was fit with data collected from 280 samples. The goodness of fit indices showed CMIN / df = 1.89, CFI=0.90, TLI=0.90, IFI= 0.92 and RMSEA=0.06, indicates that the data from sample (n = 527) were fit.

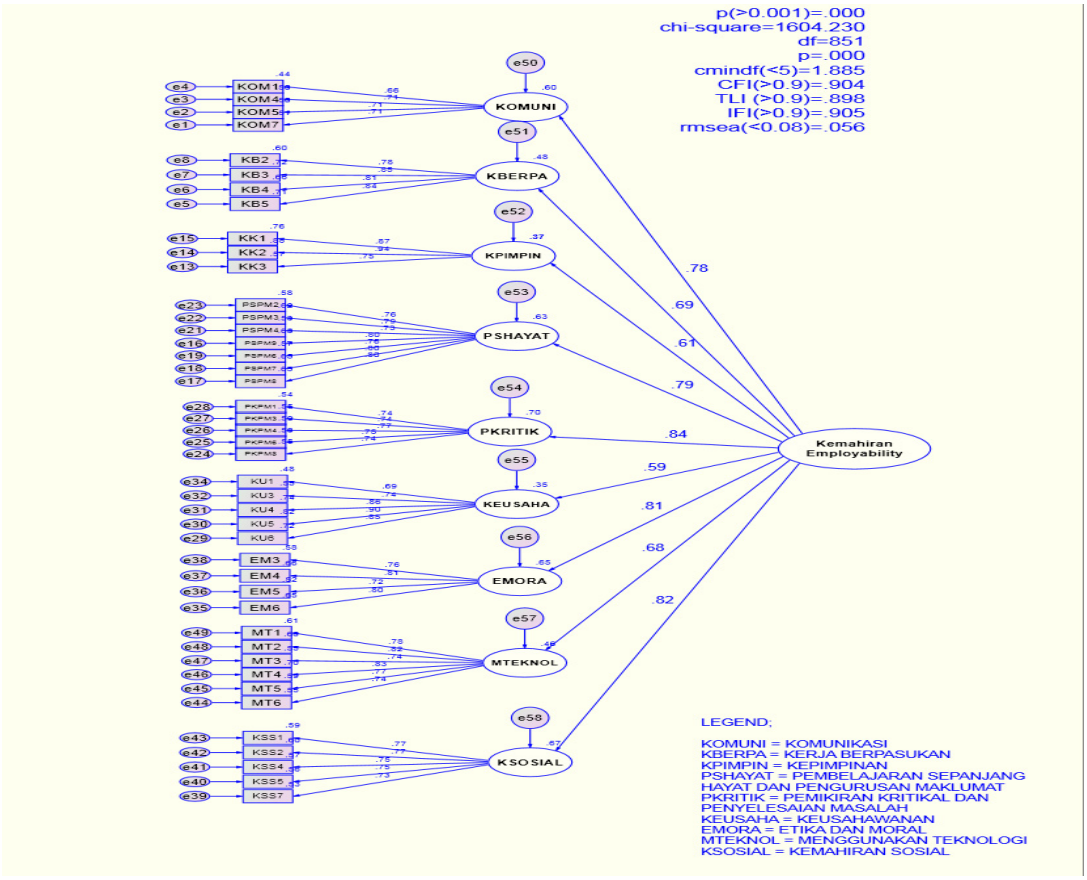

Fig. 3. Second order measurement model

Table 5 showed standardized loading, composite reliability and average variance extracted for all nine indicator of employability skills. Analysis showed all value exceeded recommended level by (Hair et al, 2006).

Table 5. Standardized loading, composite reliability and average variance extracted

		Convergent validity		
		Factor loading	Composite reliability[a]	Average Variance extracted[b]
Construct	Item			
Employability skills	(1) Communication	.78	.93	.54
	(2) Team work	.70		
	(3) Leadership	.61		
	(4) Long life learning and Information management	.80		
	(5) Critical thinking and problem solving	.84		
	(6) Entrepreneurship	.60		
	(7) Ethic and moral	.81		
	(8) Technology Utilizing Skills	.68		
	(9) Social skills	.82		

4. Conclusion

The results showed that the Cronbach Alpha value classification is very high, which was more than 0.70. This instrument had high reliability in accordance with the classification of Babbie (1992). The final model indicated nine factors measurement model of employability skills which are; critical and problem solving, ability to pursue lifelong learning and information management skills, communication skills, team work, technology utilizing skills, entrepreneurship, leadership, ethic and moral and social responsibility. Each item shows a satisfactory loading of more than 0.5 (Hair et al) and the measurement model showed adequate goodness-of-fit. Thus, the model developed was suitable to be used to study the employability skills acquire by engineering students in the context of education in Malaysia. The researchers hope that this preliminary evidence for the validity of the Employability Skills Instrument would become an outset of a more comprehensive study program to understand Malaysian students' employability skills. To provide stronger evidence for the adequacy of the instrument, future studies need to examine its validity with larger samples and correlate the results with the student's demographics and academic achievement scores.

References

Abdul Rahim Hamdan, Mohamad Najib Ghaffar, Azlina Kosnin, Jamaluddin Ramli, & Mahani Mokhtar. (2007). Gaya pembelajaran, kemahiran generik dan motivasi pelajar merentasi bidang sains tulen,kejuruteraan dan sains sosial di UTM. Persidangan Pengajaran dan Pembelajaran di Peringkat Pengajian Tinggi 2007 (pp. 39-51). Serdang: Universiti Putra Malaysia.

Anderson, J., & Gerbing, D. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3) , 411-423.

Arbuckle, J. (1997). *AMOS user"s guide version 3.6*. Chicago, IL: SmallWater.

Arbuckle, J., & Wothke, W. (1999). *AMOS user"s guide version 4.0*. Chicago, IL: Small Water.

Bagozzi, R.P., & Yi, Y. (1998). On the evaluation of structural equation model. *Journal of Academy of Marketing Science*, 16 (1) , 74-94.

Brown, B. L. (2002). Generic Skills in Career and Technical Education. Columbus: Educational Resources Information Center.

Chung Khain Wye, & Yet Mee Lim. (2009). Perception differential between employers and undergraduates on the importance of employability skills. *International education studies*, 2 (1), 95 – 105.

Fornell, C., & & Larcker, D. (1981). Evaluating structural equation models with unobserved variable and measurement error. *Journal of Marketing Research*, 18 , 39-50.

Gurvinder Kaur Gurcharan Singh, & Sharan Kaur Garib Singh. (2008). Malaysian Graduates' Employability Skills. *UNITAR E-JOURNAL*, 4(1), 15 – 45.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis*. New Jersey: Pearson International Edition.

Hoyle, R. (1995). *The Structural Equation Modeling Approach: Basic Concepts and Fundamental Issues.* Sage, Thousand Oaks, CA.

Kamaruddin Md Tahir. (2010). Penilaian pembangunan kemahiran generik dalam kalangan pelajar tahun akhir Kolej Komuniti Kementerian Pengajian Tinggi Malaysia. Tesis PhD: Universiti Kebangsaan Malaysia.

Kearns, P. (2001). Generic Skills For The New Economy – review of research,. Adelaide: NCVER.
Kementerian Pengajian Tinggi Malaysia (KPTM). (2006). Modul Pembangunan Kemahiran Insaniah (Soft Skills) untuk Institusi Pengajian Tinggi Malaysia. Universiti Putra Malaysia. Selangor.
Kerangka Kelayakan Malaysia. (2006). Titik rujukan dan persefahaman bersama tentang kelayakan pengajian tinggi di Malaysia. Kuala Lumpur: Agensi Kelayakan Malaysia.
Khaled Nordin. (2011). Meneraju kegemilangan ilmu. PutraJaya: Kementerian Pengajian Tinggi.
Krejcie, R., & Morgan, D. (1970). Determining Sample Size for research activities. .*Educational and Psychological Measurement*, 30, 607-610.
Lankard, B. A. (1995). Employability the fifth basic skills. Columbus Ohio. Career and Vocational Education.
Maclean, R., & Ordonez, V. (2007). Work, skills development for employability and education for sustainable development. *Educ Res Policy Prac*,6, 123-140.
Mayer, E. (. (1992). Australian Education Council, Putting General Education to Work: The Key Competencies Report, Australian Education Council and Ministers for Vocational Education, Employment and Training,. Canberra.
Mohamad Sattar Bin Rasul. (2010). Kajian tahap kemahiran kebolehdapatan kerja lulusan progran diploma kejuruteraan mekanikal Institus Pengajian Tinggi di Malaysia . Tesis PhD.tidak diterbitkan: Universiti Putra Malaysia.
Mohd Yusof Husain, & Ramlee Mustapha. (2009). Penilaian Tahap Kemahiran Employability dalam kalangan pelajar Politeknik Kementerian Pengajian Tinggi Malaysia. Seminar Kebangsaan Pembangunan Keusahawanan UKM. UKM.
Mohamad Sattar Rasul, Mohd Yusof Ismail, Napsiah Ismail, Muhammad Rashid Rajuddin, & Rose Amnah Abd Rauf. (2009). Importance of Employability Skills as Perceived by Employers of Malaysian Manufacturing Industry. *Journal of Applied Sciences Research*, 5(12), 2059-2066.
Nur 'Ashiqin Najmuddin. (2011). Instrumen kemahiran generik pelajar Pra-Universiti berdasarkan penilaian oleh pensyarah. Tesis PhD: Universiti Kebangsaan Malaysia.
Ramlee Mustapha, & Greenan, J. P. (2002). The role of vacational and technical education in economic development in Malaysia: Educators and employers perspective. Journal of Industrial Teacher Education. 39 (2),
Ramlee Mustapha, Faridah Karim, Ruhizan Mohd Yassin, Norzaini Azman, Hamidah Yamat, Abdul Wahab Muhammad, et al. (2008). K-Economy and Globalisation -Are our students ready? *Jurnal Personalia Pelajar*, 11, 1-23.
Rodiah Idris. (2010). Pemeriksaan ciri-ciri psikometrik dan pembentukan penanda aras pentaksiran kemahiran generik. Tesis Phd: Universiti Kabangsaan Malaysia.
Rothwell A, & Arnold J. (2007). Self-perceived employability: development and validation of a scale. *Emerald personal review , 36(1)*,23-41.
Secretary's Commission on Achieving Necessary Skills (SCANS). (1991). Skills and Task for Jobs. A SCANS Report for America 2000. Washington, D.C. U.S. Department of Labour.
Smith, B. P. (2007). Employability Standards: Inclusion in Family and Consumer Science Middle School Curriculum. *Journal of Career and Technical Education*, 23(1), 18-34.
Tan King Hiyang, & Nor Hazwin Solehah Bt Abdul Halim. (2010). Profil Kemahiran generik untuk graduan hospitaliti: perspektif pensyarah politeknik. 2nd World Congress on teacher education for TVET 2010 (pp. 126-137). Batu Pahat: Universiti Tun Hussein Onn.
The Conference Board of Canada. (1996). Employability skills profile: The critical skills required of the Canadian workforce. . Ottawa Ontario: The Corporate Council on Education, a program of the National Business and Education Center.